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Ethnosizing Immigrants*

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October 2008

Abstract

The *ethnosizer*, a new measure of the intensity of a person's ethnic identity, is proposed using information on language, culture, societal interaction, history of migration, and ethnic self-identification. A two-dimensional version classifies immigrants into four states: integration, assimilation, separation and marginalization. Results based on the German Socio-economic Panel for 2001 are as follows. Young migrants are assimilated or integrated the most. While Muslims and Christians do not integrate, both assimilate the best. Immigrants with college in the home country separate less. Having some schooling is worse than no schooling for integration and assimilation. While ex-Yugoslavs assimilate more, Greeks, Italians and Spaniards are no different than Turks.

JEL classification: F22; J15; J16; Z10
Keywords: Ethnicity, ethnic identity, acculturation, migrant assimilation, migrant integration

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Abstract

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1. Introduction

The notion of migrant ethnicity is attracting a growing interest in economic research. Migration theories that treat immigrants as a homogeneous group are becoming less relevant in the presence of ethnically and culturally diverse populations. Strong ethnic differences are found in labor market preferences and behavior (Piche et al. 2002, Dana 1997, Constant and Zimmermann 2005), in wages and income (Zorlu 2003, Neuman and Oaxaca 2005, Mason 2004), as well as in schooling performance (Betts and Fairlie 2001, Smith 2004). Research on migrant ethnicity is becoming a significant part in the growing literature on the effects of culture on economic outcomes (Guiso et al. 2006). Contributions on the significance of immigrants' ethnic diversity share the 'primordial' understanding of ethnicity as a lineage, a cultural inheritance or a "common ancestry based on shared individual characteristics and/or shared sociocultural experiences" gained at birth and marking the individual for life (Ruble 1989, p. 401, Dashevsky 1967).

In the past, ethnicity has often been treated as a permanent and static social characteristic of an individual, measured in terms of country of origin, nationality, citizenship or race. This static understanding of ethnicity does not allow accounting for an individual's sense of belonging and commitment to the group of people who share a common ancestry and culture while they are in a heterogeneous host society. For example, ascribing or classifying an immigrant as Turk based solely on citizenship, nationality, or Turkish parenthood loses crucial information on how much culturally, socially and psychologically committed to the Turkish ancestry and values this immigrant is.

To convey the inner feelings of belonging, commitment and overall attitude to the culture and society of origin, an alternative 'individualist' notion of *ethnic identity* has been generated and used in anthropology, psychology, sociology, economics and marketing. Ethnic identity is "developed, displayed, manipulated, or ignored in accordance with the demands of a

particular situation" (Royce quoted in Ruble 1989, p. 401). There is a general agreement that when compared to the 'primordial' understanding of ethnicity, ethnic identity as a changing characteristic is a better measurement of the internal transformations in personal beliefs and commitments to values and culture inherited from the ancestry. Research documents, it is ethnic identity rather than the ethnicity of immigrants that defines their social, psychological (Hazuda et al. 1988, Phinney 1990, 1992, and 1996), economic (Mason 2004) and consumer behavior (Hirshman 1981, Ogden et al. 2004, Webster 1990-91, Laroche et al. 2005).

The general theoretical framework developed by Akerlof and Kranton (2000) connects identity with different social categories and shows how individuals in those affiliations should behave. The choice of an individual to be a particular type of person then becomes a powerful economic decision with substantial changes in the conclusions in comparison with traditional economic analysis. Bénabou and Tirole (2007) model a broad class of beliefs of individuals including their identity which people value and invest in. They also study endogenously arising self-serving beliefs linked to pride, dignity or wishful thinking. While there is a large potential of these frameworks for the analysis of ethnicity, they have not been further applied to that issue.

There are, however, a number of theoretical studies that develop economic theories of ethnic identity and explicitly explore their implications for economic behavior. Kuran (1998) has created a theory of reputational cascades that explains the evolution of behavioral ethnic codes that individuals follow to preserve social acceptance. The speed of acting ethnic is chosen under the influences of social pressures that the individuals themselves create and sustain. It is fostered by interdependencies among individual incentives that crucially affect personal choices. This theory can explain why similar societies may show very different levels of ethnic activity. Darity et al. (2006) provide a long-term theory of racial (or ethnic) identification formation. Their evolutionary game theory model may result in equilibrium

where all persons follow an individualist identity strategy, another where all persons pursue a racialist (or ethnic) identity strategy, or a mixture of both. Consequently, race or ethnicity may be more or less significant for both market and non-market social interactions. A positive impact of racial identity on economic outcomes, that is, the productivity of social interactions, is the cornerstone of the theory. This also explains the persistence of racial or ethnic privileges in market economies.

Fearon and Laitin (2000) argue that ethnic identities are socially constructed, either by individual actions or by supra-individual discourses of ethnicity. They also may take the form of oppositional identities, which imply a rejection of the dominant, typically white behavioral norms (Austen-Smith and Fryer 2005, Battu et al. 2007). Cutler et al. (1999) show that the end of legal barriers enforcing segregation in location choices in the US has been replaced by decentralized racism, where whites pay more than blacks for housing in predominantly white areas. Bisin et al. (2006) find that in line with their theoretical analysis, identity with and socialization to an ethnic minority are more pronounced in mixed than in segregated neighborhoods.

Our research in this paper concentrates on the study and measurement of ethnic identity, while it also values and uses the notion of ethnicity. We treat ethnic identity and ethnicity as two distinct, but closely related concepts. While ethnic identity can change, adapt, and evolve after arrival, ethnicity remains a permanent characteristic of the country of origin. We assume that ethnic identity becomes particularly meaningful and relevant after migration. In a globalizing world, ethnic identity can be an issue for people even in their country of origin, but at home there is not as much of a challenge to the commitment and sense of belonging to the values and culture inherited upon birth from one's parents. The real challenge typically appears after arrival in the host county when pre- and post-migration cultures, customs, and habitudes clash. As immigrants are now exposed to a dissimilar ethnicity, different levels of

self-identification and feelings of belonging (either to the culture and values of ancestry or to the host society) develop. We examine various states of post-migration ethnic identity by individual characteristics, which cannot be affected by the act of migration. Once a person migrates, the ambivalence and the struggle of cultures begin.

The potential value of measuring ethnic identity is high. We know from various studies on the determinants of socioeconomic outcomes such as education, income and work participation that country of origin or race dummies explain a significant part of such behavior. But such dummies measure ethnic or racial origin and not ethnic or racial identity and can be rather misleading. Migrants may neither look nor feel ethnic, or they may affiliate less or more with the culture of the host country. Mason establishes a stable identity formation among Mexican-Americans and other Hispanics. He shows that these ethnicities are able to increase their income substantially through acculturating into a non-Hispanic white racial identity. We will provide additional empirical evidence that ethnic identity actually interacts with such socioeconomic outcomes.

How can we measure the intensity of the ethnic identity of a migrant? How ethnic is an immigrant, and where does this position the individual in the ethnic identity quadrant? Are people of certain age, gender, education, and religion more likely to maintain a strong commitment to the origin (or be more ethnic) after migration? Does ethnic origin affect the ethnic identity of migrating individuals differentially? While the focus of most of the previous economic literature is on theoretical analysis, we concentrate on the measurement and analysis of the empirical determinants. By combining information on language, culture, societal interaction, history of migration, and ethnic self-identification, we are able to provide a measure of ethnic identity, the *ethnosizer*. It enables us to classify immigrants into four states: integration, assimilation, separation and marginalization. We identify the societal sources of these regimes and suggest a basis for testing the various economic theories of ethnic identity.

In Section 2 we explain our concepts of measuring ethnic identity and of constructing the *ethnosizer*. Section 3 presents the data set used and discusses the variables in our analysis and their descriptive performance. Section 4 investigates the empirical behavior of the derived measures of ethnic identity and examines their determinants econometrically. Section 5 contains a summary and concludes.

2. Measuring ethnic identity

While a general understanding of flexible ethnic identity is shared among many social scientists, there is still no consensus on all the elements that compose ethnic identity. Among the suggested and widely used key elements of ethnic identity are the subjective expression of one's commitment to, sense of belonging to, or self-identification with the culture, values, and beliefs of a specific ethnic group and social life (Masuda et al. 1970, Tzuriel and Klein 1977, Makabe 1979, Unger et al. 2002). Most frequently employed are cultural elements such as language, religion, media and food preferences, celebrated holidays and behavior (Phinney 1990 and 1992, Unger et al. 2002, Laroche et al. 2005). A combination of these elements with heavy emphasis on culture has been used to develop measurements of ethnic identity, which are either specific to a certain ethnic group of individuals (Kwan and Sodowsky 1997, Nguyen and von Eye 2002), or are generally applicable to ethnically diverse samples of immigrants (Phinney 1990 and 1992, Laroche et al. 2005).

In this paper we develop a more general approach to ethnic identity, recognizing that while there may be some general commonalities among individuals of the same ethnicity, the individuality, personality, distinctiveness, and character of a person in an ethnic group prevails, can differ from one person to another, and can alter and evolve in different directions. We agree with Phinney (1990, p. 507) that "there are elements that are both common across groups and unique to ethnic identity for any group". We assume that the uniqueness of each ethnic group is

captured by the ethnicity of the individual. Ethnic identity is how individuals perceive themselves within an environment as they categorize and compare themselves to others of the same or different ethnicity. It is the closeness or distance one feels from one's own ethnicity or from other ethnicities as one tries to fit into the society. As such, it can differ among immigrants of the same origin or be comparable among immigrants of different ethnic backgrounds. We consider the generality of ethnic identity to be one of the most important characteristics of our conception of identity because it makes it possible to compare immigrants within an ethnic group, and to draw parallels between representatives of different ethnicities. To operationalize and measure the general concept of ethnic identity, we employ five groups of quantifiable attributes, frequently used in previous research on the measurement of this type of concepts: (i) linguistic, (ii) visible cultural elements, (iii) ethnic self-identification, (iv) ethnic network, and (v) migration history. Note that we choose these five groups because, while all five of the selected attributes are relevant, they are not specific to any ethnic group.

Social scientists approach various factors of ethnic identity from different angles. Some define ethnic identity in terms of immigrants' origins (Laroche et al.). Others look at ethnic identity from the host culture perspective, and measure it as the level of commitment to the host society and its values (Makabe 1979, Ullah 1985). Yet, a third group of researchers expresses the ethnic identity of immigrants as both an attachment to the culture or society of origin and devotion to the host country (Montgomery 1992, Unger et al. 2002, Nguyen and von Eye 2002). Similar to the latter group, in this paper we recognize that maintaining or losing one's own culture and self-identification with the origin is very closely related to gaining the culture of and self-identifying with the host society.

We, therefore, define ethnic identity as the balance between commitment to, affinity, or self-identification with the culture, norms, and society of origin and commitment to or self-identification with the host culture and society achieved by an individual after migration. In our

definition we do not restrict ethnic identity to any specific type of the relationship between commitment to the origin and commitment to the host country. For simplicity of the outline, we conjecture that an immigrant moves along a plane formed by two positive vectors normalized from 0 to 1, with 1 representing maximum commitment. On the horizontal axis we measure commitment to and self-identification with the country of origin, and on the vertical axis we measure commitment to and self-identification with the host country. This two-dimensional model allows for several permutations between commitments to one or the other country in any possible combination.

Figure 1 illustrates this concept to a special case. In this one-dimensional but continuous model one assumes a one-to-one correspondence or a zero-sum game. That is, at any time, the commitments are linearly dependent and mutually exclusive, and they sum up to one. Consequently, the more an individual commits to and feels for one country, the less he or she commits to and feels for the other country. This linear representation is depicted by a movement along the diagonal (1,0) to (0,1). We call this measurement of ethnic identity, the one-dimensional *ethnosizer*. Immigrants with maximum commitment only to the origin, point (1,0), are 'ethnic' because they did not alter their ethnic identity and affinity with the country of origin after they migrated and changed country of residence. On the vertical axis, as immigrants move from 0 to 1, they lose commitment to values and beliefs of the country of origin, and they identify all the more with the host country. They achieve a maximum bond with and commitment to the host society at point (0,1). We assume that immigrants who are at this coordinate achieve an ethnic identification that is similar to that of natives. Specifically, point (0,1) denotes a sameness, full adaptation of, strong bond with, and total identification with the culture of the host country. Such a linearity of the relationship between the commitments to two societies is comfortable for empirical research because it allows measuring the immigrants' ethnic identity

even when information on the commitment is available only for one country. Implicitly, this is the idea of immigrant assimilation in economic research.

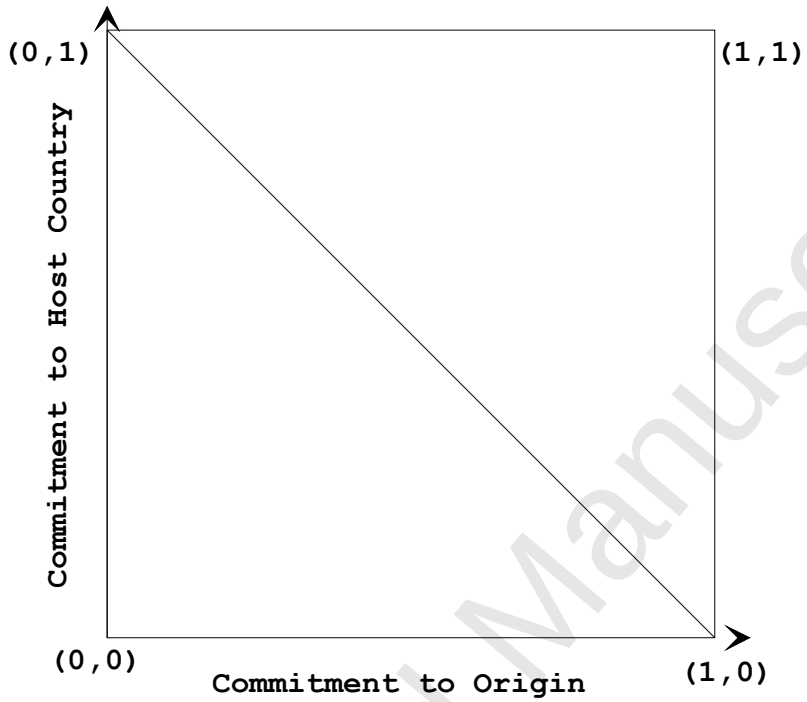

Figure 1. The *ethnosizer* as a one-dimensional understanding of ethnic identity

However, individuals may exhibit strong association with and commitment to both the culture of ancestry and the host culture.[1] The two-dimensional model of the measurement of ethnic identity suggests that commitments to two different societies can coexist and influence each other in several ways. In other words, the level of dedication to the origin does not preclude the degree of the immigrants' commitment to the host society. This assumption recognizes that an immigrant who strongly identifies with the culture and values of his or her ancestry may or may not have a strong involvement with the dominant culture. Similarly, an immigrant with a

[1] Modern technologies have made attachments to multiple ethnic groups easier. Thanks to modern communications and improvements in the transportation system, it is now possible to live in one place and keep in steady and close contact with another. Attachments can also vary according to context. Turks in Germany identify with Turkish football teams, but they fervently support German teams in tournaments without Turkish teams. On matters of health they, by and large, trust the German health system relatively more and have come to expect German standards of medical excellence.

strong affinity to the values and beliefs of the host country may or may not totally identify with the culture of ancestry. At the same time, immigrants may also be completely detached from the home or host countries. Our two-dimensional *ethnosizer* allows for this case as well.

The two-dimensional model of measuring ethnic identity helps to define the size of dedication to both the origin and the host cultures. We call the measurement of this ethnic identity the two-dimensional *ethnosizer*. As illustrated in Figure 2, there are four states of ethnic identity, differentiated by the strength of cultural and social commitments. Quadrants A, I, M, and S correspond to *Assimilation* (A), a strong identification with the host culture and society, coupled with a firm conformity to the norms, values, and codes of conduct, and a weak identification with the ancestry; *Integration* (I), achieved when an individual combines, incorporates, and exhibits both strong dedication to the origin and commitment and conformity to the host society; *Marginalization* (M), a weak dedication to or strong detachment from either the dominant culture or the culture of origin; and *Separation* (S), an exclusive commitment to the culture of origin even after years of emigration, paired with weak involvement in the host culture and country realities. Starting at point (1,0), a migrant can undergo a more complicated journey through the various states, leaving separation towards integration, assimilation or marginalization, or remaining separated all measured by the two-dimensional *ethnosizer*.

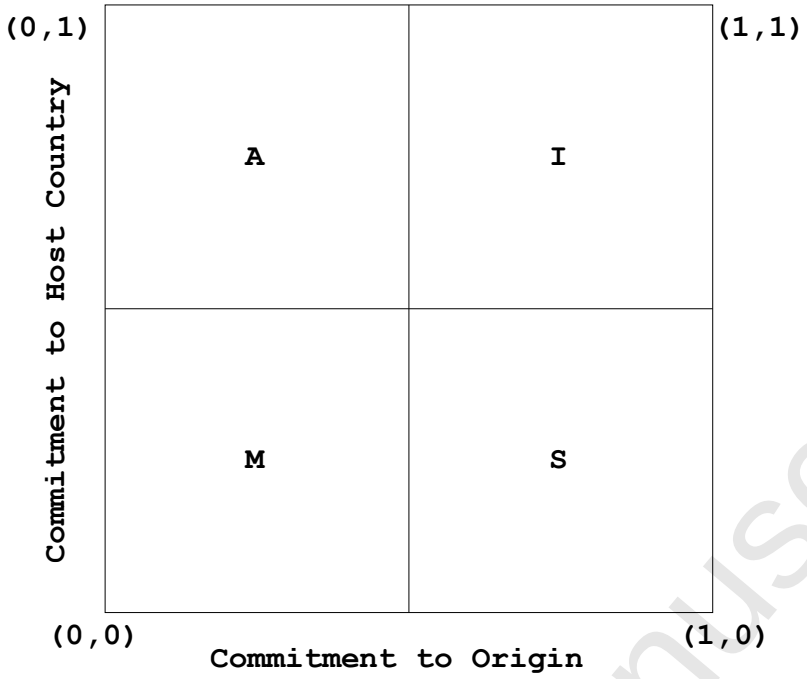

Figure 2. The *ethnosizer* as a two-dimensional measurement of the size of ethnic identity

Our two-dimensional understanding and measurement of ethnic identity is similar to Thurnwald's (1932) four rhythms of acculturation and Berry's (1980) definition of acculturation In Figure 2 we illustrate our rationale of the two-dimensional *ethnosizer* similar to Berry et al. (1989). However, we do not define the exact relationship between the exhibited involvement with the culture or origin and the culture of the host society in our understanding of ethnic identity.

To summarize, ethnicity denotes what people are since they are born in their home country. Ethnic identity denotes a complex construct and is defined as the fluid balance between commitment to or self-identification with the culture, values, and society of the origin and commitment to or self-identification with the host culture and society, achieved by an individual after migration. Whereas ethnicity is a permanent characteristic, ethnic identity is dynamic and may evolve in several directions. We are interested in measuring the intensity of ethnic identity of migrants after immigration. We define the instrument of the measurement of ethnic identity,

the *ethnosizer,* and detail its construction in the next section. The objective is to parameterize the e*thnosizer* and estimate these parameters for the one-dimensional and two-dimensional variants using individual data from migrants of different ethnicities. We also define the verb *ethnosize* as containing a higher quantity of commitment to, devotion to, or self-identification with one's own ethnicity.

3. Data set and variable description

3.1 The sample

Our empirical analysis uses data from the German Socio-economic Panel (GSOEP), a nationally representative dataset collected annually since 1984 (SOEP Group, 2001). Patterned after the PSID, the GSOEP is a well-designed survey with a long-term proven record of reliable answers and a reputation as one of the best household surveys in the world. The GSOEP takes strict measures of confidentiality and guards the anonymity of participants in all research output. The 2000, 2001 and 2002 waves contain all relevant information needed for the measurement of ethnic identity. We therefore limit our sample to respondents who participated in all three waves, while we choose the year of 2001 as the base year of observation. That is, if information is not available in 2001, we use information from the years 2000 or 2002. Many of the questions from the GSOEP 2000-2002 that are relevant to our research interests were asked only to those immigrants whose citizenship is not German. Consequently, we limit our sample to non-German nationals only. We also exclude from our sample the German-born immigrants since we want to focus on the adjustment effects among (first-generation) immigrants. All in all, our sample consists of 1,400 individuals; since some variables have missing values regressions are based on smaller samples.

In Table 1 we present the summary statistics of our sample. On average, there are slightly fewer women (49%), and the age of the respondents varies between 18 and 84 with the average

being 45 years. Over a third of the immigrants in the sample are Muslims, and about another third Catholic. Most immigrants have either vocational or secondary education in their home countries. Over 46% of the sample did not receive adequate education in the country of origin, which could partially be explained by the young average age (about 22 years) at the time of immigration. About 8% of immigrants have obtained a college degree in the country of origin.

<< Table 1 about here >>

The selected sample is representative of all major ethnic groups of immigrants who live in Germany, namely Turks, Greeks, Italians, Spaniards, and people from the former Yugoslavia. We classify immigrants by ethnicity according to their country of origin. Turks form the largest ethnic group (34.8%) followed by ex-Yugoslavs (18.2%), Italians (15.3%), Greeks (8.5%) and Spaniards (3.6%). Immigrants from other ethnicities are 20% of our sample.

3.2 Construction of the dependent variables

In this section we explain the practical construction of the one- and two-dimensional measures of ethnic identity, the *ethnosizer*, that we suggested in section 2. We form the *ethnosizer* by combining and weighing together five essential elements of personal devotion to the German culture and society and to the culture and society of origin: (i) language, (ii) culture, (iii) ethnic self-identification, (iv) ethnic interaction, and (v) migration history. We identify questions that transmit information on these salient components of ethnic identity. Table 2 presents the specific variables used for the measures for each classification by factor group in both models.

A potential problem is that ethnic attachment can be feigned, and the respondent may be playing to the interviewer. This might be especially true for ethnic self-identification, where individuals are asked whether they feel German or how closely they are still attached to the

country of origin.[2] However, this question was asked a number of times to the same individuals since 1984, the year the GSOEP started. Our *ethnosizer* also uses a number of additional questions on the same items from this survey, and averages their outcomes so that a potential reporting bias in some questions is balanced.

In calculating the one-dimensional *ethnosizer*, we weigh the sub-indices for the five variable groups equally. The sub-indices standardize the available information and proxy the ethnic identity of the individual from a different perspective. They are suggested to contain equally valuable information. For the one-dimensional *ethnosizer*, we also analyze the indices separately. For the two-dimensional *ethnosizer*, we summarize directly all individual data points for the five variable groups equally.

According to the one-dimensional model, the information summarized in column 1 of Table 2 about the attachment to the host country is also sufficient to define the immigrants' commitment to their origin and, therefore, to estimate their ethnic identity. We assigned a value to all alternative answers that a respondent was offered to choose from in replying to each stated question. That is, '1' corresponds to an answer indicating the least commitment to the German culture and '0' to an answer demonstrating the highest commitment to the German culture. An individual who indicates a 'very good' knowledge of spoken German, for example, receives the value of zero on this particular question. Following the same logic, the value of 'good' knowledge of German scores 0.25, 'fair' knowledge of German scores 0.5, 'poor' knowledge of German scores 0.75, and 'none at all' knowledge of German scores 1. In the linear model, the person who receives 1 demonstrates the most linguistic identification with the origin and is linguistically ethnic. On the other hand, an individual who scores zero on the same question is

[2] The questions are 1) 'Feel German:' "To what extent do you view yourself as a German?", and 2) 'Feel connected to the country of origin:' "To what extent do you feel that you belong to the culture of the country where you or your family comes from?" Potential answers are "completely, for the most part, in some respects, hardly, or not at all".

linguistically identical to a native German and has lost all ethnic identification with the language of origin. A similar procedure was performed on all other variables from the five components.

<< Table 2 about here>>

From the mean value of answers that a respondent gave to the questions from each category of factors, we generate the following five variables: *Language*, the mean assigned value of the respondents' answers to the questions on the language use category; *Cultural elements*, the mean assigned value of answers to the questions on the visible cultural elements category; *Interaction*, the mean assigned value of answers to the questions on the ethnic interaction and social relatedness category; *Self-identification*, the mean assigned value of answers to the questions on the ethnic self-identification category; and *Migration history*, the mean assigned value of answers to the questions on the category migration history.

The one-dimensional *ethnosizer* is the mean assigned value of answers to the questions from all five categories. The variables language, cultural elements, interaction, self-identification and migration history are mini-scales, sizing the ethnic identity of immigrants by a specific factor of ethnic identity. The one-dimensional *ethnosizer*, however, can be viewed as a super-scale, sizing the ethnic identity of individuals using all factors of this concept. All five scales measure ethnic identity as a continuous variable bounded to an interval between 0 and 1. The closer the value of the measured ethnic identity is to zero, the less commitment to the origin it indicates, and the closer it is to 1, the less the immigrant's devotion and commitment to the host society is.

However, the linear model can be seen as too restrictive or simplistic. For example, some people identify linguistically with multiple languages. This is quite natural: Europeans, unlike Americans, grow up in multilingual environments and become fluent in more than one language. By the same token, an immigrant who is fluent in German need not have lost identification with the ancestral language. To measure this two-dimensional nature of reality, a multi-dimensional

framework is appropriate. In this paper we concentrate on the two-dimensional generalization only.

To measure ethnic identity by the two-dimensional *ethnosizer*, we need information on commitments to both the host and home societies and cultures. We identified questions that help us compare a personal devotion to German culture and society with the commitment to the culture and people of origin. In most cases we paired each variable indicating commitment to German culture with a variable measuring a similar aspect of commitment to the culture of origin. The pairing was not required for the variable in the 'cultural elements' factor group because the construction of the variable alone allowed evaluating the strength of commitment to the German media and the media from the country of origin. Column 2 of Table 2 displays the list of variables used to measure ethnic identity in the two-dimensional model.

Following our rationale depicted in Figure 2, we identify the status of the immigrants' ethnic identity by each group of elements. A respondent with a 'very good' or 'good' command of both German and the language of origin is classified as linguistically integrated; a respondent with 'good' command of German and 'bad' or 'no command' of the language of origin is considered linguistically assimilated; a respondent with 'very good' or 'good' command of the language of origin, and 'fair' or 'worse' command of German is labeled linguistically separated; and, finally, a person with a 'bad' command of both languages is classified as linguistically marginalized. Similarly, people who equally prefer the German media and the media of their country of origin are culturally integrated; those who are involved only in the German media are culturally assimilated, the readers of media only from the country of origin are culturally separated, and those who do not read any media are culturally marginalized. We performed the same operation of transformation and classification on the variables of preferences in ethnic interaction, self-identification, and migration history.

Classifying immigrants as strictly integrated, assimilated, separated or marginalized in all five components can be delusive. A person can be culturally and linguistically integrated into the German society, but may still have no friends in Germany or strongly identify with the home country. In fact, in our sample there are only very few immigrants who are identified as assimilated or separated in all five factor groups of ethnic identity and no one at all who is identified as integrated or marginalized in all factor groups. In most cases the respondents' content of ethnic identity varies across the factor groups, which is why the measure is scientifically valuable.

With our technique, it is also possible to discuss the status of ethnic identity in comparative terms. For example, if respondent A is identified as assimilated in terms of language, culture, and self-identification and respondent B is identified as assimilated only in terms of self-identification, then respondent A is generally more assimilated than respondent B. If, on the other hand, respondent B is identified as separated in more factor groups than respondent A, he or she could be considered as more separated than respondent A. Therefore, we generate the following four dependent variables that measure the ethnic identity of immigrants: (i) *integration* is the number of times that each respondent is identified as 'integrated' in all five factors groups of ethnic identity, (ii) *assimilation* is the number of times that each respondent is identified as 'assimilated' in all five factor groups, (iii) *separation* is the number of times that each respondent is identified as 'separated' in all five groups, and (iv) *marginalization* is the number of times that each respondent is identified as 'marginalized' in all five groups. Each of these four variables can take a value between 0 and 5, and for each immigrant they sum up to five.

The descriptive statistics in Table 1 reflect some interesting patterns of our one- and two-dimensional *ethnosizers*. Based on the mean value of the one-dimensional *ethnosizer* (0.548), the immigrants in our sample demonstrate about the same commitment to the culture of the host

society as to the culture of origin with a marginal advantage for the home society. However, the average immigrant in our sample demonstrates stronger separation (1.9) than integration (1.2), assimilation (1.1) or marginalization (0.9). According to these four states (the two-dimensional *ethnosizer*), immigrants in Germany demonstrate a stronger commitment to the culture and society of origin than to the host country. While these observations are somewhat conflicting at first sight, they are the direct consequence of the differences in the dimension of observation and the depths of measurement. Not surprisingly, the one-dimensional *ethnosizer* overestimates the adaptation and acculturation of immigrants to the host country.

Our one- and two-dimensional measures of ethnic identity condense information on language, culture, ethnic self-identification, ethnic interaction and migration history. This information is collected typically some time after the immigrant has entered the country and has been exposed to adjustment challenges. We, therefore, treat education in the home country as a pre-determined and exogenous production factor of ethnic identity towards the home and the host country. Education and work participation in the host country, however, is potentially jointly endogenous with ethnic identity at the time of measurement and, hence, should be excluded from a set of potential regressors provided that there are no particular good reasons to do otherwise.

To establish a rough understanding to what extent ethnicity correlates with socio-economic outcomes, we have calculated the correlation coefficients between the integration, assimilation, separation and marginalization measures and total years of education in the home and host country, with a dummy to work and with income (and a reduced sample of those working only). The expected tendency shows up, namely that integration and assimilation are positively correlated with success, and separation and marginalization are negatively correlated.

3.3 Distribution of the measurements of ethnic identity

Table 3 presents the mean distribution of our key measurements of ethnic identity by ethnicity, religion and gender. On average, immigrants of any ethnic or religious group are more likely to exhibit commitment either to the German culture and society or to the society and culture of the origin than not exhibit any commitment at all. Marginalization is a weak phenomenon among immigrants in Germany. The average ethnic, religious, or gender group demonstrates marginalization in less than one factor of ethnic identity.

<< Table 3 about here>>

Turkish immigrants exhibit the strongest identification with their origin and the weakest identification with the German culture and society in both the one- and two-dimensional models of ethnic identity. Individuals of Turkish ethnicity are the only ethnic group of immigrants in our sample whose mean score on the *ethnosizer* is largely higher than the sample average score. This indicates that Turks have more commitment to the country of origin or less than average devotion to the German culture. Moreover, on average, Turkish immigrants manifest the lowest level of either integration or assimilation and the highest level of separation among all ethnic groups. This can be interpreted as the Turks' strong commitment to the culture of ancestry and weak devotion to German society.

To the contrary, Spanish immigrants demonstrate the strongest average commitment to the German culture and society among all other major groups of immigrants in Germany. Together with the ex-Yugoslavs, Spanish respondents score the lowest on the *ethnosizer* and therefore are, on average, less ethnic than most other major immigrant groups in Germany. They also exhibit the highest integration and assimilation scores and the lowest marginalization and separation from the German society. Note that all other ethnicities together score the lowest among all immigrants on the *ethnosizer*, the highest on assimilation and integration and the lowest on separation.

Table 3 also indicates that Muslims in our study have a pattern of cultural and social commitment that is very similar to the pattern of cultural and social devotion of Turks, while the Catholics' pattern of cultural devotion resembles that of Spaniards. For instance, Muslims score, on average, as high on the *ethnosizer* as Turks do. Also, Muslims demonstrate as strong of a separation as individuals of Turkish ethnicity but slightly stronger assimilation and much lower integration than them. Similar to Spaniards, Catholics score low on the *ethnosizer*, exhibiting stronger integration and assimilation and lower separation than Muslims do. Because many Turks are Muslims and many Spaniards are Catholic, the question which is relevant here (and which we will answer in our further statistical analyses) is whether it is the ethnicity of immigrants or their religion that defines the cultural and social commitment to the origin and to the host society.[3]

Lastly, we find that immigrant women are, on average, slightly more committed to the culture and society of the country of origin than men are. As Table 3 shows, the average immigrant woman not only is a little bit more ethnic, but also demonstrates less integration and assimilation and more separation and marginalization than the average immigrant man. Work habits may contribute to this finding. Ethnic identity and work preferences are generated jointly. However, those women who are pulled into work can integrate and assimilate better since work makes such adjustments easier due to the special exposure it provides. Given the low incentives for women to work in Germany, they should be attached closer to the home culture than men.

4. Quantifying ethnic identity

4.1 The one-dimensional *ethnosizer*

[3] There is substantial independent variation for the ethnicity and religion variables. As exhibited in Table 1, the categories for religion are Catholic, Other Christian, Muslim, Other Religion, and Non-religious. While Greeks, Italians and Spaniards are predominantly Christians (Greek Christians are largely non-Catholics), only about three quarters of the Turks in the sample are Muslims and about 4% are Christians; about 30% of the ex-Yugoslavs are Muslims and about 60% are Christians; 2% of the Greeks are Muslims.

We now turn to the econometric investigation of our measures of ethnic identity. Table 4 contains the ordinary least squares (OLS) regression results[4] of the one-dimensional *ethnosizer* and its components, namely language, culture, social interaction, migration history, and self-identification. This exercise shows how ethnosized immigrants are according to their characteristics. Recall that while the *ethnosizer* indicates stronger commitment to the origin, the individual components in Columns 1 to 5 are constructed with information on Germany alone. A higher value in language, for example, shows a lower commitment to the German language and is interpreted as being more linguistically ethnic. Note that the reference individual is a non-religious, male, Turk with no education in the home country. Column 6 shows that, overall, the expressed affiliation and affinity of immigrants with the home country increases with age and is smaller the older a person is upon arrival in Germany. Put differently, for each additional year one arrives older, the ethnic identity towards the home country is larger, albeit at a decreasing rate. Females and those with complete or incomplete schooling in the home country remain more ethnically attached than the reference group, while Catholics are less. Interestingly, immigrants with college education from the home country are less ethnosized. Controlling for all regression determinants (especially religion), we find that Italians, Spaniards, Greeks, ex-Yugoslavs and immigrants of other ethnicities are significantly less ethnosized than Turks.

<< Table 4 about here>>

The analysis on the components of the *ethnosizer* exhibits a much more complex picture. The affiliation with German as the adopted language and the relative use of the language of ethnic origin is of central concern in scientific research and in the political debate since language proficiency is positively associated with labor market success (Chiswick 1991, Chiswick and Miller 1996, Esser 2006). With the exception of a few variables, Column 1 of Table 4 basically

[4] We present here and in the sequel only OLS regressions since these findings are pretty consistent with the more complex logit and limited-dependent variable models we examined.

mimics the findings of the general one-dimensional *ethnosizer*, although the estimated significant parameters are mostly larger in absolute terms. Muslim religion is a significant contributor to identifying with one's own ethnicity and increases one's linguistic ethnic identity. Pre-migration education shows interesting results. Vocational training in the home country leads to stronger affiliation with the German language, but some or complete schooling in the home country makes immigrants more linguistically ethnic. We find that Italians, Spaniards and Greeks are no linguistically different than Turks, while ex-Yugoslavs, Spaniards and other ethnicities are less linguistically ethnic and identify with the German language more than Turks.

The cultural ethnic identity findings in Column 2 of Table 4 display a structure similar to language. One exception is the parameter estimates on all ethnicity dummies indicating that, compared to Turks, other immigrants are less culturally ethnic and identify more with the German culture.

Exposure to German nationals and people of the own ethnic group (interaction) is analyzed in Column 3 of Table 4. Note that Catholics, other Christians and other religions interact more with Germans in comparison to non-religious individuals and Muslims. Low levels of education in the home country result in a stronger attachment to and socializing with individuals from their own ethnicity, but college education produces the opposite effect. Other things equal, we find again that all ethnicities are significantly less ethnic in their social interaction with people than Turks.

The migration history column (Column 4 of Table 4) measures attachments to the home country and nationality. The attachment to the home country increases with age and incomplete schooling, while it decreases among Muslims, other Christians, other religions and with college and higher education in the home country. Ex-Yugoslavs, Italians and all other ethnicities have a stronger attachment to the host country than Turks; meaning that they wish to remain in Germany.

The individual self-expression of ethnic identity finally provides once again a somewhat similar picture to the general *ethnosizer*. As the estimates in Column 5 of Table 4 suggest, the individual affiliation of migrants with the host country is smaller the older a person is upon arrival in Germany. Women self-identify with Germans significantly less than men. Interestingly, when it comes to self-identification, no religion plays a significant role. Those with incomplete schooling in the home country remain significantly more ethnic in their self-identification than the reference group. A college degree helps immigrants significantly self-identify with Germans than no degree at all. While Spaniards, Italians and Greeks are no different than Turks, ex-Yugoslavs and immigrants from other ethnicities are self-identifying less with their heritage and culture of origin.

Across all indicators, this analysis provides rough predictions of ethnic integration into the host country's ethnicity: The attachment is smaller among females, those with higher age at entry and among those with incomplete or complete schooling. It is larger among Catholics and the college-educated. Muslims are culturally and linguistically attached to their origin, but exhibit a more German-oriented migration history which results in an overall effect of zero for the general one-dimensional *ethnosizer*. Most parameter estimates for the ethnic groups are statistically significant, and when so, they are negative. This implies that all ethnicities are significantly less ethnic than Turks, the reference group.

4.2 The two-dimensional *ethnosizer*

We now move over to the analysis of our two-dimensional model of ethnic identity. This approach enables us to differentiate between integration, assimilation, separation and marginalization of the ethnic groups. Recall that here individuals can identify with more than one country and culture. Regression results are again OLS estimates and presented in Table 5. As before, the reference individual is a male, non-religious, Turk with no education in the home

country. Age at entry matters: it decreases the scores for integration and assimilation and increases the scores for separation and marginalization; the effect is linear for integration only, while it is moderated with higher age at entry in the other three cases. Age, in general, does not affect the strength of integration or assimilation at all, but it is negatively associated with separation and positively connected with marginalization. Taken together, they imply that younger immigrants upon arrival are more likely to assimilate or integrate than older ones, and this does not change with duration of residence. The older individuals are upon arrival, the less probable is separation and the more probable is marginalization at the time of entry; while after that age affects marginalization positively (albeit at a decreasing rate), separation becomes less probable with rising age. Females are no different than males in all three states of the two-dimensional *ethnosizer* except in assimilation, suggesting that women are less assimilated than men.

<< Table 5 about here>>

As it turns out, religion is a decisive indicator for the evolution of two states of ethnic identity in the two-dimensional model. Muslims are less likely to integrate and more often marginalized than non-religious immigrants; they are however more likely to assimilate. Catholics are also integrating less than non-religious individuals, but they are strongly more assimilated and less separated than the reference group. Other Christians also exhibit less integration and more assimilation in comparison to non-religious individuals. Immigrants in other religions separate less and marginalize more. If assimilation is the central goal, then Muslims, Catholics or other Christians are the preferred groups; if integration is the required level of performance, then non-religious individuals outperform all others.

Pre-migration education exhibits a differentiated impact on the evolution of ethnic identity of immigrants. Complete or incomplete schooling before emigration leads to higher levels of separation; the effect is stronger with incomplete schooling than with complete

schooling, both in comparison to no education. While complete schooling leads to lower levels of integration and assimilation, incomplete schooling has stronger negative effects. College and higher education in the home country make a significant difference only in the separation levels; those individuals are less prone to separate from the host country than those with no education. Vocational training plays a role in marginalization only. Namely, immigrants with vocational training are less likely to marginalize in Germany that those with no such education.

The effects of ethnicity are covered by parameters for country of origin dummies, which need to be interpreted with respect to the Turkish reference group. People from the former Yugoslavia seem to go to extremes. While they are more likely to assimilate and less likely to separate, they are also more likely to marginalize. Greeks, Italians and Spaniards are similar to Turks in their ethnic identity struggle in all four states of the *ethnosizer*. Lastly, immigrants from other ethnicities manage to be more integrated and assimilated and less separated than Turks.

While we have found that religion is a decisive production factor in the process of ethnic adjustment and identification, the country of origin dummies suggest small but considerable differences in ethnic identity according to nationality and ancestry. This implies that ethnicity measured by country of origin cannot be reduced to religious factors. Expressed differently, religion has an independent impact on an individual's ability to adjust into another ethnicity, and this might be related either to the particular characteristics of the religion or to its closeness to the dominant religion in the host country.

5. Summary and conclusions

In this paper we investigate migrant ethnicity and the evolution of ethnic identity during residence in the host country. To operationalize ethnic identity we establish five groups of essential elements that can best capture the salient features of ethnic identity: language use, cultural aspects, ethnic networks, migration history, and ethnic self-identification. Using these

factor groups, we start with a linear continuous representation of ethnic identity measuring devotion to the host society and commitment to the origin on a scale from zero to one. This zero-sum concept of ethnic identity we call the one-dimensional *ethnosizer*. A two-dimensional *ethnosizer* allows us to capture four possibilities of different commitments to the host and home cultures. Therefore, we distinguish between integration, assimilation, separation and marginalization of migrant ethnic identity in a more realistic setting. Using data from the German Socio-economic Panel, we then calibrate the various measures and investigate their relationship to age, age at entry, religion, educational levels, and ethnic origin.

The first round of analyses is based on the one-dimensional *ethnosizer*. Here, we find that immigrant women manifest a closer bond to their native ethnic identity than men, and this is caused by a low attachment to Germany concerning language use, cultural aspects and ethnic self-identification. Catholics adapt stronger to the ethnic identity of the host country, mainly because of their German social interactions. While Muslims remain strongly more linguistically and culturally ethnic, they are less ethnic in their migration history and want to stay in Germany permanently. Other Christians and immigrants of other religions also form an ethnic identity closer to Germans in their interactions and migration history. Completed and incomplete schooling in the home country keeps migrants more ethnic and inflexible towards adjustment. College and higher education in the home country lead to a stronger interaction with Germans, a larger willingness to stay in Germany and a deeper self-identification with the host country. The highly educated are overall less ethnic as they have a negative statistically significant effect on the general one-dimensional *ethnosizer*. All ethnicities are less ethnosized than Turks, who have a strong Turkish ethnic identity. This is also true for the culture, social interaction with co-ethnics and migration history elements.

In the two-dimensional *ethnosizer*, young migrants at arrival are integrated or assimilated the best, while they marginalize the least and are more probable to separate. Women are only

different than men in their assimilation scores, meaning that they assimilate or become the same as Germans less than men. When it comes to integration, that is, keeping and valuing both cultures, religion is important. Muslims, Catholics, and other Christians do not integrate, but assimilate well in comparison to non-religious individuals. Muslim immigrants also score high on marginalization in comparison to non-religious individuals followed by the other religions. Catholics separate less than the non-religious followed by other religions. Immigrants with a college degree or higher education in the home country separate less than those with no education. School education, whether complete or incomplete, is more harmful for the process of integration or assimilation than no education in the home country; it also leads to more separation. Vocational training in the home country mitigates marginalization. The ethnicity of the individuals, measured by dummy variables of the countries of origin, remains statistically different from zero in some cases with an interesting pattern. Ex-Yugoslavs assimilate more and separate less than Turks, but they also marginalize more. While Greeks, Spaniards and Italians are no different than Turks, people from other ethnicities integrate and assimilate more; they also separate less than Turks.

Since the provision of data and reliable measures are important to investigate the validity of the developed theories, the paper could complement and stimulate the existing strands of the literature. The *ethnosizer* can contribute to testing various influential arguments in sophisticated ways. For instance, it is able to measure the social categories or multiple identities of Akerlof and Kranton, examine how individuals sort themselves into those categories, and determine how such choices affect economic performance. The *ethnosizer* may further provide evidence of multiple equilibria with respect to levels and types of ethnic activity as in Kuran, who describes situations of low and massive ethnifications. This suggests ways to explore why ex-Yugoslavs go to extremes, as in the data set presented in the paper, where they assimilate and marginalize more at the same time than most of the other ethnicities. Similarly, it might provide insights into why

other ethnicities may be more integrated and more assimilated than the Turks. It is also possible to study why socialization would be more pronounced in mixed neighborhoods than in segregated neighborhoods, an issue that was put forward by Bisin et al.. We hope that the *ethnosizer* will help to generate an exciting agenda of further research.

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Table 1. Descriptive sample statistics

Variables	Mean	Standard Deviation
Female	0.491	0.500
Age	45.062	13.956
Age at entry	22.587	11.034
Religion		
Muslim	0.341	0.474
Catholic	0.308	0.462
Other Christian	0.180	0.384
Other religions	0.123	0.328
Non-religious	0.151	0.358
Schooling		
Have at least college in the home country	0.079	0.270
Have vocational training in the home country	0.291	0.454
Have completed schooling in the home country	0.340	0.474
Have incomplete schooling in the home country	0.161	0.368
Have no education degree from the home country	0.300	0.458
Ethnicity		
Turkish	0.348	0.476
ex-Yugoslav	0.182	0.386
Greek	0.085	0.279
Italian	0.153	0.360
Spanish	0.036	0.187
Other	0.196	0.397
Ethnosizers		
One-dimensional *ethnosizer*	0.548	0.186
Integration	1.191	0.999
Assimilation	1.080	1.083
Separation	1.871	1.388
Marginalization	0.859	0.890

Table 2. Five elements of ethnic identity that compose the *ethnosizer*

One-dimensional model	Two-dimensional model
(1) Based on Germany alone	(2) Based on both countries
Language	*Language*
Own opinion of spoken German	Own opinion of spoken German
Own opinion of written German	Own opinion of written German
Language mostly used in Germany	Own opinion of spoken language of origin
	Own opinion of written language of origin
Culture	*Culture*
Preferred media	Preferred media
Preferred music	
Cooked meals	
Ethnic self-identification	*Ethnic self-identification*
Self-identify as German	Self-identify as German
	Self-identify with the country of origin
Ethnic interaction	*Ethnic interaction*
Ancestry of three closest friends and relatives	Ancestry of three closest friends and relatives
Paid visits to Germans during the last year	
Received visits from Germans during the last year	
Remit to family abroad	
German spouse	
Migration history	*Migration history*
Wish to remain in Germany permanently	Intend to apply for German Citizenship if can have dual
Take trips to the country of origin	Want to return to the country of origin

Table 3. Distribution of the One- and Two-dimensional *Ethnosizers* by Ethnicity, Gender, and Religion

	One-dimensional	Two-dimensional			
	Ethnosizer	Integration	Assimilation	Separation	Marginalization
Ethnicity					
Turkish	0.639	1.032	0.779	2.293	0.896
	(0.007)	(0.046)	(0.045)	(0.063)	(0.043)
ex-Yugoslav	0.523	1.219	1.107	1.756	0.917
	(0.010)	(0.062)	(0.065)	(0.083)	(0.059)
Greek	0.573	1.121	0.897	2.069	0.914
	(0.015)	(0.095)	(0.083)	(0.132)	(0.083)
Italian	0.540	1.163	1.077	1.894	0.865
	(0.012)	(0.064)	(0.080)	(0.095)	(0.064)
Spanish	0.529	1.388	1.122	1.776	0.714
	(0.026)	(0.162)	(0.145)	(0.213)	(0.109)
Other	0.410	1.471	1.681	1.117	0.732
	(0.010)	(0.062)	(0.069)	(0.070)	(0.049)
Religion					
Muslim	0.623	0.929	0.862	2.262	0.946
	(0.008)	(0.044)	(0.047)	(0.064)	(0.043)
Catholic	0.497	1.245	1.295	1.634	0.826
	(0.009)	(0.046)	(0.058)	(0.067)	(0.043)
Other Christian	0.523	1.255	1.119	1.761	0.864
	(0.011)	(0.066)	(0.067)	(0.087)	(0.054)
Other religion	0.511	1.538	1.138	1.538	0.788
	(0.014)	(0.084)	(0.081)	(0.098)	(0.068)
No religion	0.500	1.585	1.169	1.518	0.728
	(0.013)	(0.078)	(0.072)	(0.092)	(0.062)
Gender					
Female	0.561	1.151	1.030	1.918	0.901
	(0.007)	(0.040)	(0.041)	(0.055)	(0.036)
Male	0.536	1.229	1.127	1.827	0.818
	(0.007)	(0.038)	(0.042)	(0.053)	(0.033)
Mean	0.548	1.191	1.080	1.871	0.859
	(0.005)	(0.027)	(0.030)	(0.038)	(0.024)

Note: Standard errors in parentheses

Table 4. OLS estimates of one-dimensional measurements of ethnic identity

	Language	Culture	Social Interaction	Migration History	Self-identification	*Ethnosizer*
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.388**	0.544***	0.688***	0.942***	0.654***	0.643***
	(2.16)	(4.05)	(3.38)	(4.06)	(3.19)	(5.37)
Age	-0.014	-0.007	-0.004	-0.023	-0.012	-0.012
	(-1.14)	(-0.78)	(-0.27)	(-1.51)	(-0.85)	(-1.48)
Age squared	0.0002	0.0001	-5.84e-07	0.001**	0.0003	0.0003
	(0.93)	(0.66)	(-0.00)	(2.21)	(0.87)	(1.58)
Age cubic	-1.70e-06	-8.26e-07	3.79e-07	-6.22e-06***	-2.34e-06	-2.14e-06*
	(-0.94)	(-0.61)	(0.18)	(-2.66)	(-1.13)	(-1.78)
Age at entry	0.020***	0.010***	0.005**	0.001	0.009***	0.009***
	(10.10)	(6.50)	(2.11)	(0.21)	(4.19)	(6.72)
Age at entry squared	-0.0001***	-0.0001***	-4.30e-06	-0.0001	-0.00002	-0.0001**
	(-3.69)	(-3.25)	(-0.11)	(-1.29)	(-0.48)	(-2.54)
Female	0.054***	0.045***	0.001	0.007	0.025*	0.026***
	(4.27)	(4.70)	(0.05)	(0.45)	(1.74)	(3.12)
Muslim	0.064**	0.069***	-0.019	-0.173***	0.029	-0.006
	(2.13)	(3.05)	(-0.55)	(-4.43)	(0.84)	(-0.29)
Catholic	-0.017	-0.024	-0.101***	-0.058	-0.044	-0.049**
	(-0.55)	(-1.06)	(-2.92)	(-1.48)	(-1.26)	(-2.40)
Other Christian	-0.014	0.007	-0.069*	-0.091**	0.007	-0.032
	(-0.45)	(0.31)	(-1.91)	(-2.23)	(0.20)	(-1.51)
Other religion	-0.009	-0.008	-0.063*	-0.082**	-0.012	-0.035
	(-0.28)	(-0.36)	(-1.73)	(-1.98)	(-0.33)	(-1.63)
College and higher education in the home country	-0.018	0.020	-0.058**	-0.075**	-0.064**	-0.039**
	(-0.70)	(1.02)	(-1.96)	(-2.25)	(-2.17)	(-2.26)
Vocational training in the home country	-0.037**	-0.022*	0.011	0.019	0.006	-0.005
	(-2.28)	(-1.76)	(0.57)	(0.91)	(0.33)	(-0.42)
Complete schooling in the home country	0.095***	0.034***	0.037**	0.016	0.024	0.041***
	(6.39)	(3.09)	(2.20)	(0.84)	(1.39)	(4.16)
Incomplete schooling in the home country	0.119***	0.046***	0.108***	0.051**	0.037*	0.072***
	(6.19)	(3.21)	(4.94)	(2.07)	(1.69)	(5.63)
ex-Yugoslav	-0.115***	-0.151***	-0.079***	-0.127***	-0.107***	-0.116***
	(-5.35)	(-9.38)	(-3.20)	(-4.56)	(-4.33)	(-8.05)
Greek	-0.040	-0.061***	-0.080**	0.022	-0.047	-0.041**
	(-1.28)	(-2.58)	(-2.24)	(0.54)	(-1.30)	(-1.96)
Italian	-0.010	-0.056***	-0.080**	-0.096***	-0.020	-0.052***
	(-0.36)	(-2.69)	(-2.54)	(-2.68)	(-0.62)	(-2.83)
Spanish	-0.066*	-0.114***	-0.144***	0.00004	0.033	-0.058**
	(-1.68)	(-3.85)	(-3.20)	(0.00)	(0.73)	(-2.20)
Other ethnicity	-0.307***	-0.265***	-0.315***	-0.171***	-0.163***	-0.244***
	(-12.70)	(-14.63)	(-11.46)	(-5.46)	(-5.90)	(-15.12)
Adjusted R^2	0.399	0.373	0.229	0.095	0.112	0.349
Number of observations	1,300					

Note: t-ratios in parentheses
* significant at 10%, ** significant at 5%, *** significant at 1% (two-tail test)
The reference individual is a non-religious, male, Turk with no education in the home country.
Dependent variables are coded as highest value corresponds to lowest commitment to Germany or highest commitment to the origin.

Table 5. OLS estimates of two-dimensional measurements of ethnic identity

	Integration	Assimilation	Separation	Marginalization
	(1)	(2)	(3)	(4)
Constant	1.090	1.709**	3.363***	-1.162
	(1.44)	(2.24)	(3.44)	(-1.63)
Age	0.058	-0.002	-0.169***	0.114**
	(1.14)	(-0.05)	(-2.58)	(2.38)
Age squared	-0.001	0.0001	0.004***	-0.003***
	(-0.85)	(0.05)	(2.67)	(-2.82)
Age cubic	4.76e-06	-1.60e-07	-0.00003***	0.00002***
	(0.63)	(-0.02)	(-2.90)	(3.33)
Age at entry	-0.030***	-0.064***	0.074***	0.020**
	(-3.64)	(-7.69)	(6.94)	(2.56)
Age at entry squared	0.0001	0.001***	-0.001***	-0.0003**
	(0.99)	(4.95)	(-2.82)	(-2.48)
Female	-0.043	-0.121**	0.084	0.081
	(-0.81)	(-2.26)	(1.22)	(1.61)
Muslim	-0.562***	0.228*	-0.034	0.368***
	(-4.33)	(1.74)	(-0.20)	(3.00)
Catholic	-0.340***	0.458***	-0.279*	0.161
	(-2.60)	(3.48)	(-1.65)	(1.31)
Other Christian	-0.252*	0.267**	-0.208	0.193
	(-1.87)	(1.96)	(-1.19)	(1.51)
Other religion	-0.098	0.179	-0.307*	0.226*
	(-0.71)	(1.29)	(-1.73)	(1.75)
College and higher education in the home country	0.143	0.092	-0.396***	0.161
	(1.32)	(0.84)	(-2.82)	(1.57)
Vocational training in the home country	0.065	0.048	0.067	-0.180***
	(0.94)	(0.69)	(0.75)	(-2.76)
Complete schooling in the home country	-0.169***	-0.268***	0.449***	-0.011
	(-2.70)	(-4.25)	(5.53)	(-0.18)
Incomplete schooling in the home country	-0.405***	-0.390***	0.682***	0.112
	(-5.02)	(-4.79)	(6.54)	(1.48)
ex-Yugoslav	0.107	0.335***	-0.584***	0.143*
	(1.18)	(3.67)	(-4.99)	(1.67)
Greek	-0.172	0.033	0.017	0.122
	(-1.31)	(0.25)	(0.10)	(0.98)
Italian	-0.094	0.063	-0.085	0.116
	(-0.80)	(0.54)	(-0.57)	(1.06)
Spanish	0.086	0.062	-0.126	-0.022
	(0.52)	(0.37)	(-0.59)	(-0.14)
Other ethnicity	0.312***	0.963***	-1.330***	0.055
	(3.03)	(9.28)	(-10.00)	(0.56)
Adjusted R^2	0.137	0.230	0.262	0.055
Number of observations		1,269		

Note: t-ratios in parentheses
* significant at 10%, ** significant at 5%, *** significant at 1% (two-tail test)
The reference individual is a non-religious, male, Turk with no education in the home country.